**JOB DESCRIPTION**

**Ref:**

**Job Title: PhD position on soil dust emission: field campaigns, theory and modeling**

**About BSC:**

BSC-CNS (Barcelona Supercomputing Center – Centro Nacional de Supercomputación) is the National Supercomputing Facility in Spain and was officially constituted in April 2005. BSC-CNS manages MareNostrum, one of the most powerful supercomputers in Europe, located at the Torre Girona chapel. The mission of BSC-CNS is to investigate, develop and manage information technology in order to facilitate scientific progress. BSC combines HPC service provision and R&D into both computer and computational science (life, earth and engineering sciences) under one roof and currently has over 400 staff from 41 countries. To get an idea of what its like to work at the BSC take a look at this video: <https://www.youtube.com/watch?v=VRkEii7OzRE>

**Context and Mission:**

We are looking for PhD student in the Atmospheric Composition (AC) group at the Earth Sciences Department of the Barcelona Supercomputing Center. The AC group led by Carlos Pérez García-Pando aims at better understanding and predicting the spatiotemporal variations of atmospheric pollutants along with their effects upon air quality, weather and climate. The post is available immediately for a fixed-term period of 4 years.

The successful candidate will focus on dust emission as part of the new European Research Council project FRontiers in dust minerAloGical coMposition and its Effects upoN climaTe (FRAGMENT; <https://www.bsc.es/news/bsc-news/two-bsc-researchers-selected-erc-“consolidator-grant”)>. He/she is expected to contribute new fundamental understanding on the size distribution and mineralogy of dust particles when emitted from arid regions. He/she is expected to help performing the field campaings, which will happen during the first two years of the PhD in Spain, Morocco and California, and contribute to the evaluation and further development of emission theories.

The successful candidate will work closely with national and international collaborators from the Spanish Scientific Research Council, Technische Universität Darmstadt, NASA, Caltech and PSI. He/she will be supervised by Carlos Pérez García-Pando from the Barcelona Supercomputing Center (the PI of FRAGMENT) and Xavier Querol from the Spanish Scientific Research Council.

The applicant should be ready to be on travel frequently and to participate in field campaigns in three continents during the first two years of the PhD.

**Requirements**

* Ready to be on travel frequently and to participate in field campaigns in three continents during the first two years of the PhD.
* **Education**
  + **Having a MSc in Physics, Geology, Geosciences, Engineering or related discipline.**
  + **Excellent academic record**
* **Knowledge and professional experience**
  + Previous knowledge on wind erosion and dust emission would be a clear advantage.
  + Previous experience in field campaigns would be a clear advantage.
  + Previous knowledge on soil analysis would be a clear advantage.
  + Robust physics and/or geology backgrounds will be highly valued
  + Computing skills in high-level computer languages (such as FORTRAN or C) and experience with UNIX/LINUX environments will be highly valued
* **Competences**
  + Very good interpersonal skills
  + Fluency in English
  + Excellent written and verbal communication skills
  + Ability to take initiative, prioritize and work under set deadlines
  + **Ability to work both independently and within a team**

**Conditions**

The position will be located at BSC within the Earth Sciences department and IDAEA-CSIC. The contract will be for **four** years.

**Applications Procedure**

All applications must be applied in LINK including:

1. A motivation letter
2. A full CV including contact details
3. Academic Record
4. Two reference LETTERS or CONTACTS

**Diversity and Equal Opportunity Employment**

BSC-CNS is an equal opportunity employer committed to diversity and inclusion. We are pleased to consider all qualified applicants for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability or any other basis protected by applicable state or local law.

***OTHER DETAILS INTERNAL USE:***

***Duration of the contract: 4***

***Funding Project: FRAGMENT (from October). If we find someone before we may hire him/her right away with K-Dust or AXA***

***Salary Range: (PhD salary)***